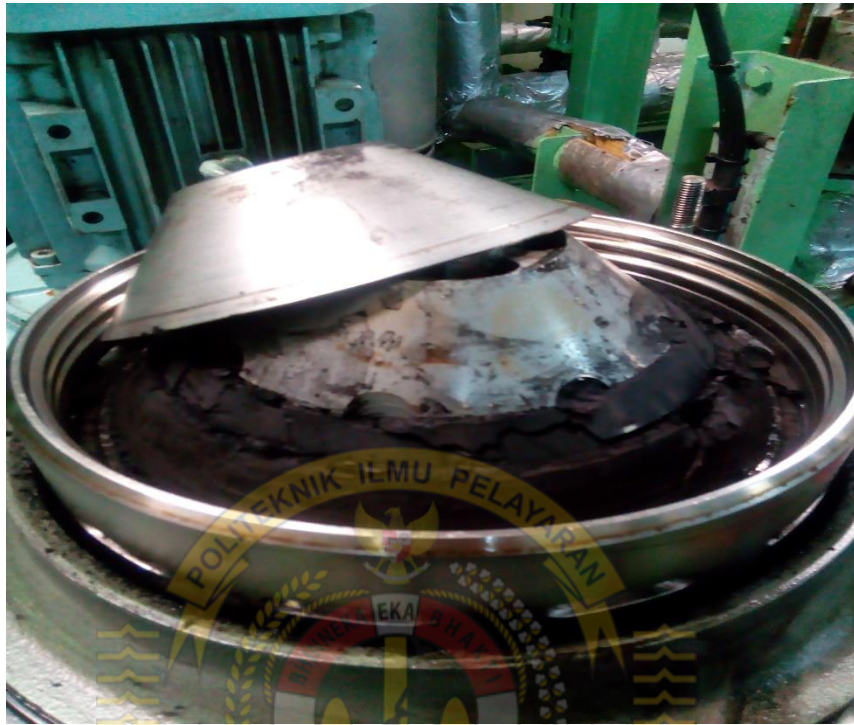


## LAMPIRAN 1



Gambar 4.1 Sumbatan lumpur pada plat



Gambar 4.2 HFO setting temperature panel

## Lampiran 2

### 4.4 Bowl

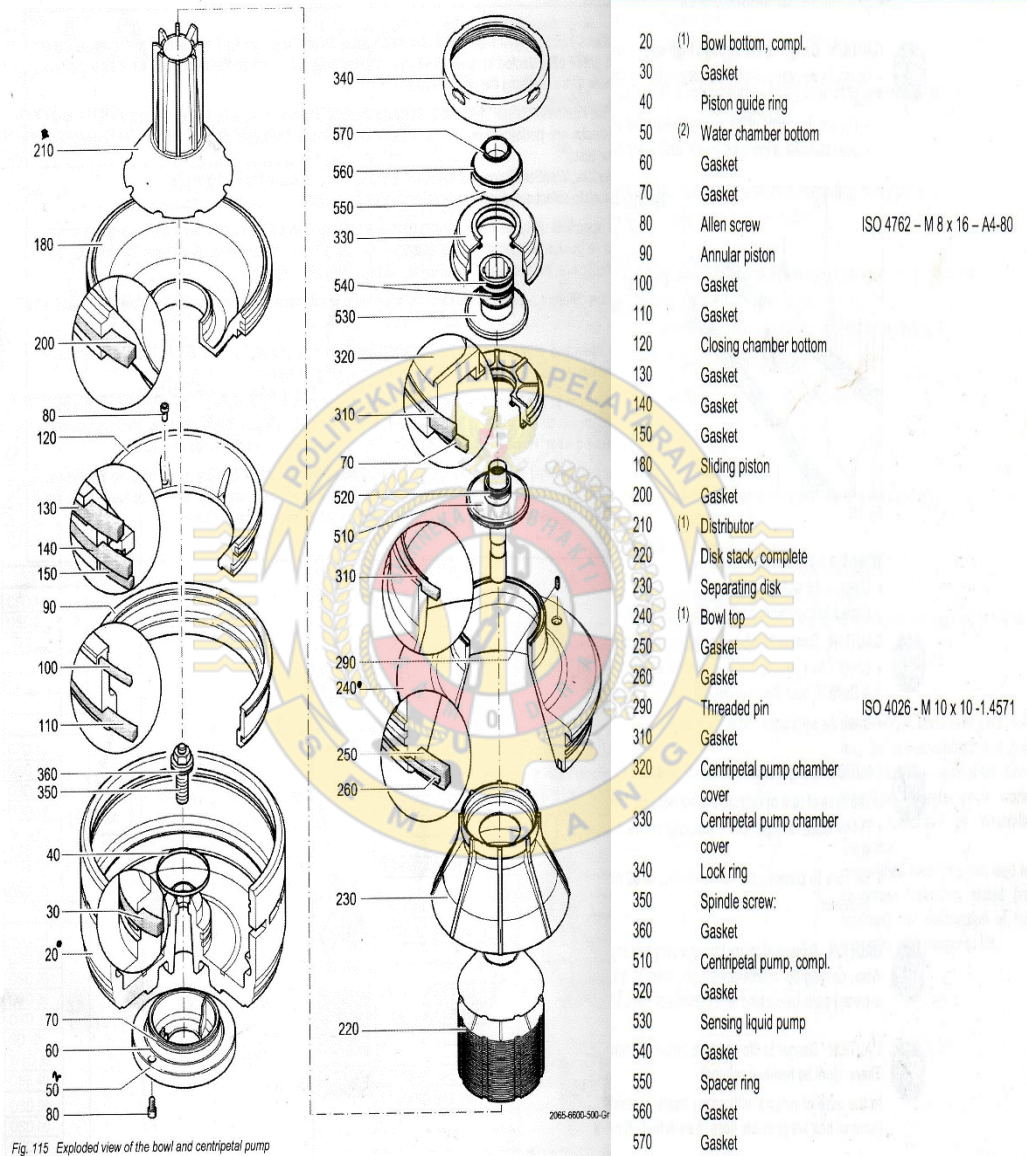
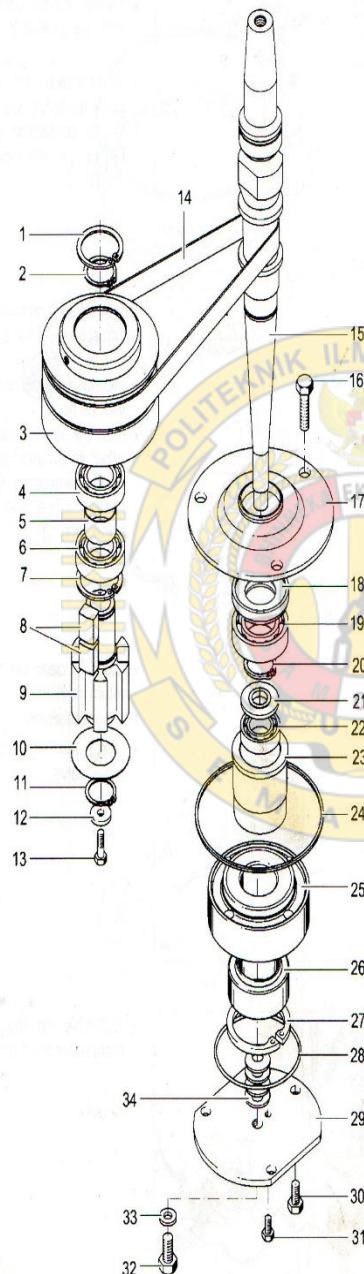


Fig. 115 Exploded view of the bowl and centripetal pump

Gambar 4.3. Bowl dan disc part

### Lampiran 3

#### 4.6 Drive



Pos.	Designation	Dimensions
1	Retaining ring	95 x 3
2	Retaining ring	60 x 2
3	Clutch pulley	
4	Grooved ball bearing	
5	Spacer bush	
6	Grooved ball bearing	
7	Retaining ring	95 x 3
8	Clutch driver	
9	Clutch shoe	
10	Washer	11 x 27 x 4
11	Hex head screw	M 10 x 65
12	Washer	
13	Retaining ring	60 x 2
14	Drive belt	
15	Spindle	
16	Hex head screw	M 10 x 20
17	Bearing cover	
18	Bearing cover	
19	Grooved ball bearing	
20	Retaining ring	35 x 1.5
21	Ball bearing protection ring	
22	Angular contact ball bearing	
23	Bearing sleeve	
24	Gasket	
25	Rubber-metal cushion	
26	Pivoting bearing	
27	Retaining ring	90 x 3
28	Gasket	
29	Bearing cover	
30	Hex head screw	M 10 x 20
31	Hex head screw	M 6 x 16
32	Hex head screw	M 12 x 18
33	Washer	
34	Cup spring	

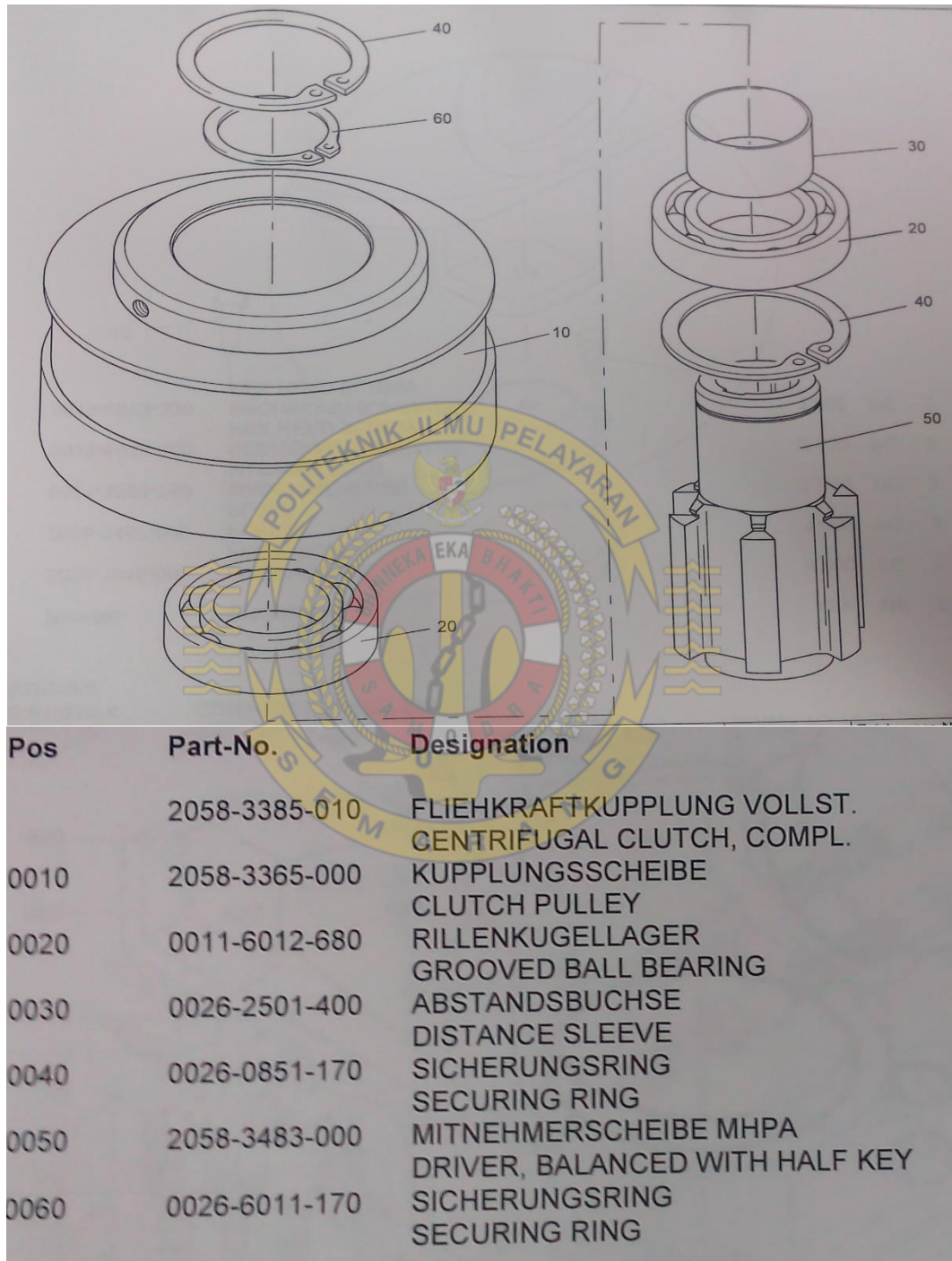
Fig. 246 Exploded view of the drive

Mechanical Separation / GEA Westfalia Separator

Gamabar 4.4 Illustrasion of Vertical Shaft Part

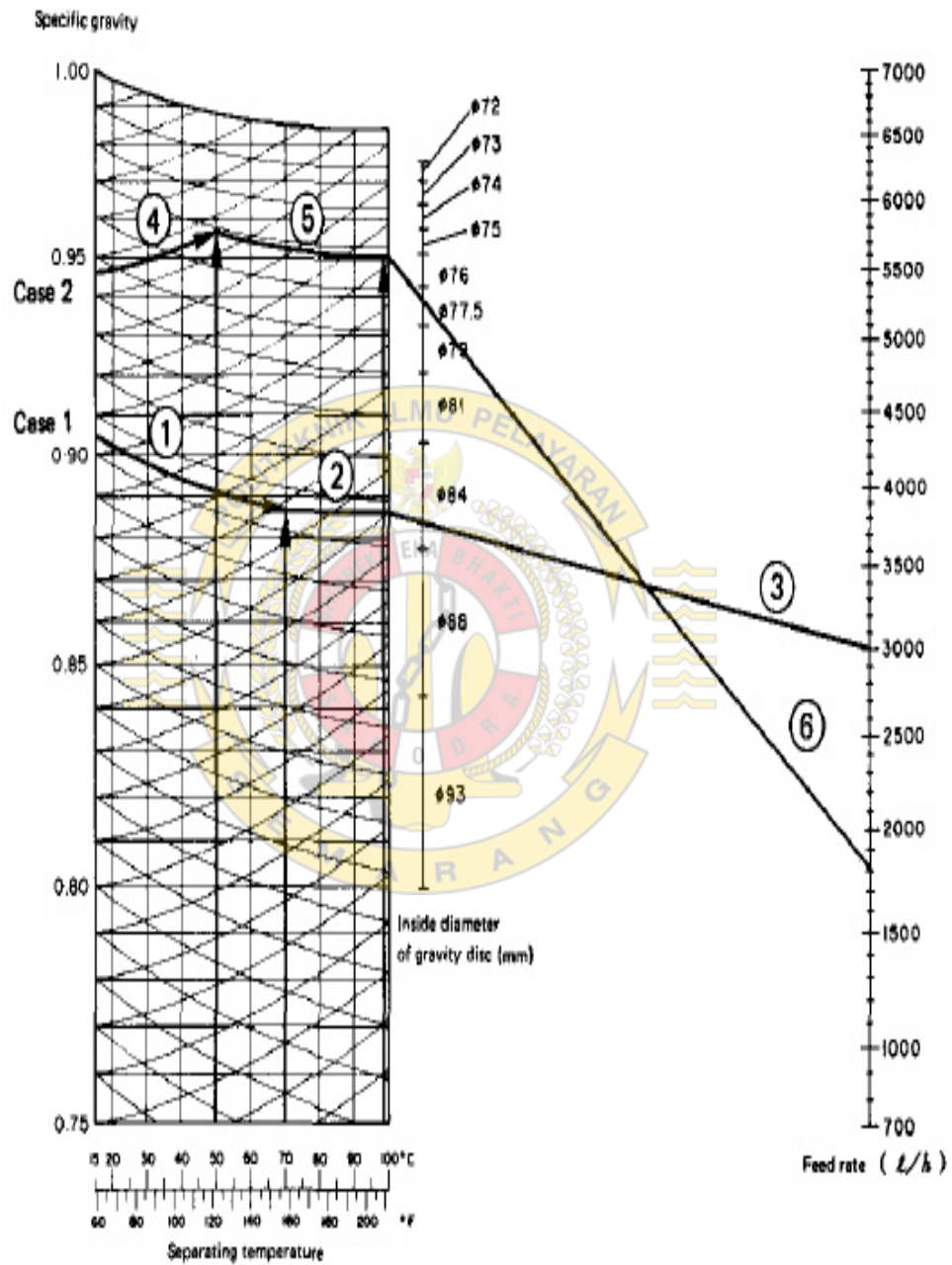


#### Lampiran 4



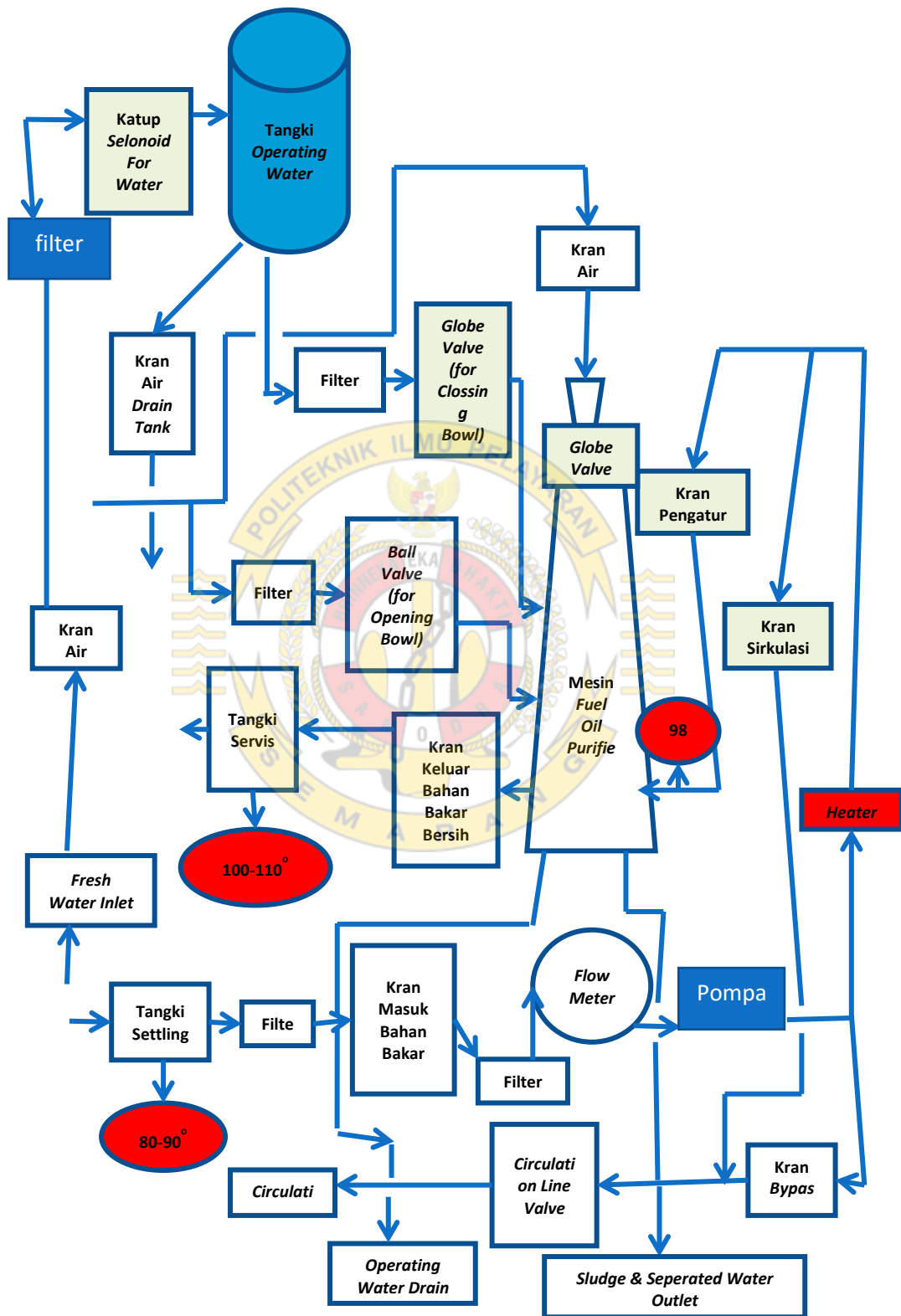
Gambar 4.5 Clutch Pulley/ Driver Part

## LAMPIRAN 5



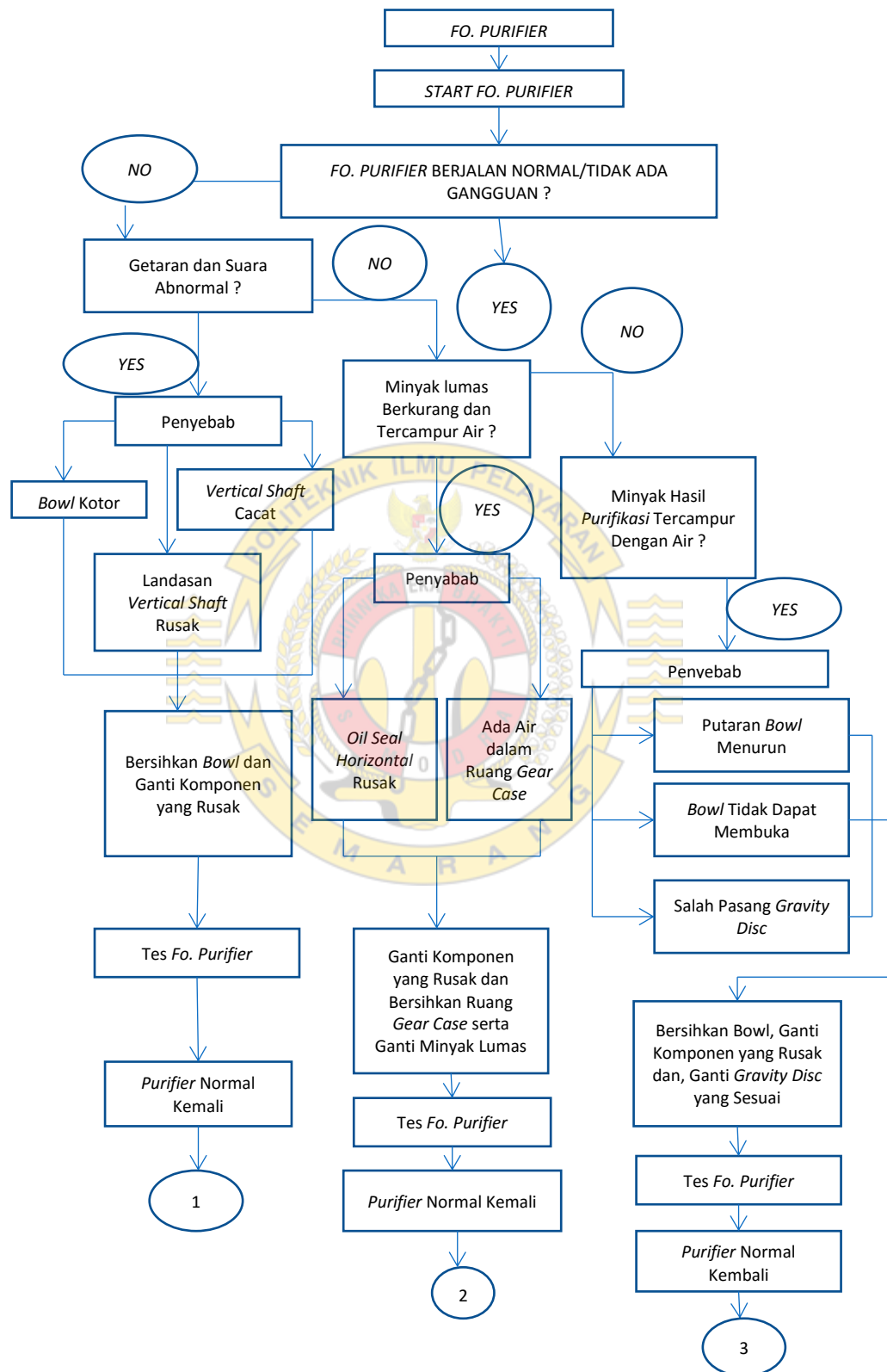
Gambar 4.6 Selection nomogram of gravity disc

## Lampiran 6




Gambar 4.7 *Flowchart* Diagram Sistem *Fuel Oil Purifier*

## Lampiran 7



Gambar 4.8 Flowchart Diagram Sistem Fuel Oil Purifier

## Lampiran 8

Normal separating temperature of the product	
DO / <i>50/60 Hz</i>	20 °C (68 °F)
MDO / <i>40/50 Hz</i>	40 °C (104 °F)
LO /	90 °C (194 °F)
LO HD	95 °C (203 °F)
HFO	98 °C (208 °F)
 Due to the large number of products to be treated, it is not possible to specify an exact separating temperature of the product in this manual. The exact separating temperature of the product (in °C) is stated in the order-specific data sheet.	

Motor		
Power rating	50 Hz	4 kW
	60 Hz	4.8 kW
Speed	50 Hz	3 000 RPM
	60 Hz	3 600 RPM
Design	IM V1	
Enclosure	IP 55	
Drive	50/60 Hz	
Oil filling	approx. 2.5 l	
	Oil quality, see section 4.3.3	

Product feed pump	
Pump unit (gear or screw pump)	
Output	depending on plant rating
Suction height	max. 0.4 bar
Pressure head	2 bar

Weights	
Separator (with motor, without bowl)	160 kg
Bowl	45 kg
Motor	25 kg


Gambar 4.9 Fuel oil setting temperature



## Lampiran 9

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Maintenance work	Remark
<b>- After 8000 operating hours – after 1 year at the latest</b> <b>- After 24,000 operating hours – after 3 years at the latest</b> <b>- After 40,000 operating hours – after 5 years at the latest</b>	
Bowl inspection	<ul style="list-style-type: none"> <li>• Dismantle bowl and centripetal pump.</li> <li>• Clean the bowl and centripetal pump parts and check for corrosion and erosion.</li> <li>• Clean all holes, nozzles and chambers of the hydraulic system.</li> <li>• The cones of bowl and spindle must be clean and dry when fitting.</li> </ul>
Replace gaskets and piston guide ring (see adjacent figure).	<ul style="list-style-type: none"> <li>• Use set of spare parts "bowl/hood" (Operation: 1 year or 8000 hours). See parts list.</li> </ul> <p><b>Important: Time-consuming installation!</b> Change the polyamide gasket only when it is damaged (see section 4.4.9).</p>
Clean the inside of the upper section of frame.	<ul style="list-style-type: none"> <li>• Remove bowl.</li> </ul>
Replace gaskets.	<ul style="list-style-type: none"> <li>• Use set of spare parts "drive" (Operation: 1 year or 8000 hours). See parts list.</li> </ul>
Replace the drive belt.	
Replace grooved ball bearings and angular contact ball bearings of spindle.	
Replace vibration absorber.	
Check grooved ball bearings of centrifugal clutch and replace if necessary.	<ul style="list-style-type: none"> <li>• Use set of spare parts "drive" (Operation: 2 years or 16,000 hours). See parts list.</li> </ul>
Check thickness of the clutch shoes (1) and replace when  h smaller than 18 mm.	
New condition of clutch shoe h = 26 mm	<ul style="list-style-type: none"> <li>• See instructions of motor manufacturer</li> </ul>
Check the motor.	
Re-lubricate motor bearings (if required)	
Oil change and thorough cleaning of the drive chamber	<p>When using mineral oil <sup>(2)</sup></p> <p>When using synthetic oil <sup>(2)</sup></p>
Check the bowl height.	<ul style="list-style-type: none"> <li>• See section 4.7.1.</li> </ul>
<b>In case of direct current:</b>	<ul style="list-style-type: none"> <li>• Check only after motor or drive replacement.</li> <li>• See section 4.1.5.</li> </ul>
Check the spindle speed (bowl).	
Check the starting time.	<ul style="list-style-type: none"> <li>• See section 4.1.5.</li> </ul>
Clean the strainer and pipe in the operating liquid feed system on the self-cleaning separator.	<ul style="list-style-type: none"> <li>• See section 4.4.4</li> </ul>
Carefully clean the holes in the non-return valve in the water feed and rinse with water.	<ul style="list-style-type: none"> <li>• See section 4.5.</li> </ul>
Check the functionality of the non-return valve.	
Carefully clean the water detector (if provided) with a soft cloth, use diesel oil if necessary.	
Clean the sight glass(es) in the frame for observing the drive belt.	
Check the hoses and hose pipes and replace when necessary.	
Check that vibration absorbers are fully functional (option).	
Clean the filter in the suction line of the product feed pump (option).	

(1) In the case of frequent starting and stopping of the separator, shaft-driven alternator operation and power plants shorter maintenance intervals are required. It is not possible to state a definitive time. We recommend checking the clutch shoes after 1,000 operating hours or after 2 months at the latest.

(2) See section 4.3.3 - Oil quality and oil change

Gambar 4.10 Running hours spare part fuel oil purifier

## Lampiran 10

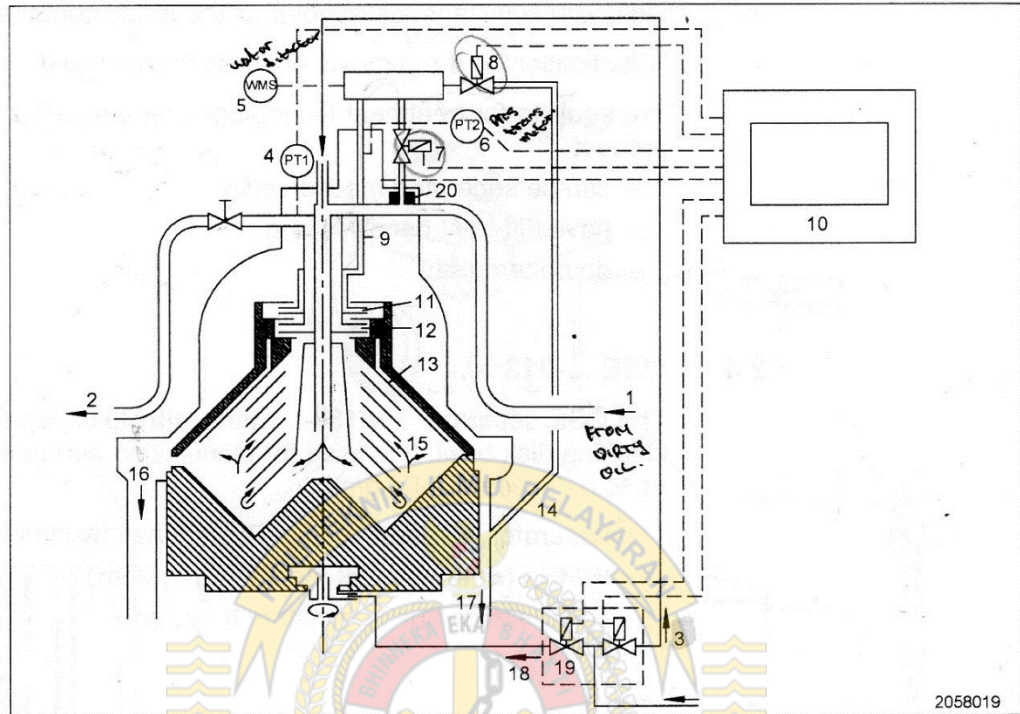


Fig. 60 Example of monitoring

- |                                    |                                 |
|------------------------------------|---------------------------------|
| 1 Dirty oil feed                   | 11 Sensing liquid pump          |
| 2 Clean oil discharge              | 12 Centripetal pump (clean oil) |
| 3 Displacement water               | 13 Separating disk              |
| 4 Pressure transmitter (clean oil) | 14 Dirty water discharge        |
| 5 Water detector:                  | 15 Solids holding space         |
| 6 Pressure transmitter             | 16 Solids discharge             |
| 7 Solenoid valve circuit           | 17 Operating water discharge    |
| 8 Solenoid valve water discharge   | 18 Operating water feed         |
| 9 Partial flow                     | 19 Solenoid valve block         |
| 10 Control and monitoring device   | 20 Throttle                     |

Gambar 4.11 sistem fuel oil purifier

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